BRUHAT BANGALORE MAHANAGARA PALIKE

Project:Widening and asphalting of main road from sampigehalli to agrahara village in ward no.05, Byatarayanapura sub division

Est Cost: 140 Lakh

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.133, I.No.19.1 of PW, P&IWTD SR 2015-16)								
	Desilt	Cum							
	Chokkanahalli Road 1750-1950		2	200.00	0.60	0.50	120.00		
	Sampige halli to Agrahara		2	140.00	0.60	0.50	84.00		
	Culvert Desilt		1	8.00	0.80	0.60	3.84		
	New Pipe culverts		2	10.00	0.80	1.00	16.00		
	Earthern drain		2	180.00	1.20	0.45	194.40		
							418.24	177.89	**74400.71**
2	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.2 of PW,P&IWTD S.R 2015-16)								
	NP3 culverts	Cum	2	10.00	0.80	0.15	2.40		
	Parappet wall		4	0.45	1.20	0.15	0.32		
							2.72	5236.92	**14244.42**
3	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No. 1000 / 2300 (P.No.246, I.No.34.6.3 of PW, P&IWTD S.R 2015-16)								
	NP3 culverts	Rmtr	2	10.00	--	--	20.00	4018.68	**80373.60**
4	KSRB 5.2-3: Providing and constructing granite size stone masonry in foundation cement mortor 1:6, stone hammered dressed in courses not less than 20cms high, bond stones at 2m. apart in each course including cost of materaials, labour, curing complete as per specifications. Specifcation No. KBS 5.1.13. (P.No.23, I.No.5.6 of PW, P&IWTD S.R 2015-16)								
	Parappet wall	Cum							
			4	0.45	1.20	1.50	3.24		
	Deduct NP3 pipe		4	0.45	0.28		-0.50		
							2.74	4135.32	**11330.78**
5	Providing ruled pointing of coursed stone masonry with Cement mortar 1:3 20mm deep, after raking joints to depth of 20mm necely lining, including cost of materials, abour, HOm of machineries curing etc., complete as per specification and directions of the Engineer-in-charge (P-112, It.15.3)								
		Sqm	8	1.2	--	1.5	14.40		
							14.40	99.36	**1430.78**

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
6	KSRB 4-1.6: Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregates @ 0.459 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.6 of PW,P&IWTD S.R 2015-16)								
	Coping	Cum							
			4	0.45	1.20	0.075	0.16		
							0.16	5490.72	**878.52**
7	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.142, I.No.19.14 of PW,P&IWTD S.R 2015-16)								
	Sampigehalli to Agrahara	Cum	1	140.00	7.00	0.50	490.00		
							490.00	143.33	**70231.70**
8	KSRRB M400-6.2: Construction of **granular sub-base** by providing Close graded material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with mortar grader on prepared surface and compacting with vibratory roller to achieve the desired density, complete as per specifications. A Plant Mix methad For Grading II Material (P.No.154, I.No.20.4.2 of PW,P&IWTD SR 2015-16)								
	Chokkanahalli Road								
	Ch 1060-1550	Cum	1	490.00	9.50	0.20	931.00		
	Ch 1550-1750		1	200.00	9.00	0.20	360.00		
	Ch 1750-1950		1	200.00	8.50	0.20	340.00		
	Sampigehalli to Agrahara		1	140.00	7.00	0.20	196.00		
							1827.00	1622.16	**2963686.32**
9	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.157, I.No.20.18 of PW,P&IWTD SR 2015-16)								
	Chokkanahalli Road								
	Ch 1060-1550	Cum	1	490.00	9.50	0.25	1163.75		
	Ch 1550-1750		1	200.00	9.00	0.25	450.00		
	Ch 1750-1950		1	200.00	8.50	0.25	425.00		
	Sampigehalli to Agrahara		1	140.00	7.00	0.25	245.00		
							2283.75	1713.96	**3914256.15**
10	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.160, I.No.21.6 of PW,P&IWTD SR 2015-16)								
	Chokkanahalli Road								
	Ch 1060-1550	Cum	1	490.00	9.50	--	4655.00		
	Ch 1550-1750		1	200.00	9.00	--	1800.00		
	Ch 1750-1950		1	200.00	8.50	--	1700.00		
	Sampigehalli to Agrahara		1	140.00	7.00	--	980.00		
							9135.00	28.08	**256510.80**
11	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.160 I.No.21.7 of PW,P&IWTD SR of 2015-16)								
	For Laying DBM	Sqm							

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
	Chokkanahalli Road								
	Ch 1060-1550		1	490.00	9.50	--	4655.00		
	Ch 1550-1750		1	200.00	9.00	--	1800.00		
	Ch 1750-1950		1	200.00	8.50	--	1700.00		
	Sampigehalli to Agrahara		1	140.00	7.00	--	980.00		
	For Laying BC								
	Chokkanahalli Road								
	Ch 1060-1550		1	490.00	9.50	--	4655.00		
	Ch 1550-1750		1	200.00	9.00	--	1800.00		
	Ch 1750-1950		1	200.00	8.50	--	1700.00		
	Sampigehalli to Agrahara		1	140.00	7.00	--	980.00		
							18270.00	11.88	**217047.60**
12	KSRRB M500-16. Providing and laying dense bituminous macadam 50-75mm compacted thickness with 4.5% VG-30 Bitumen using 40/60 TPH capacity H.M.P, using crushed aggregates of grading II, premixed with VG 30 grade bituminous binder and transporting the hot mix to work site, laying with mechanical paver to the required grade level and alignment rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10, complete in all respects complete as per specification MORTH specification No. 507 (P.No.162 I.No. 21.17.6 of PW,P&IWTD S.R 2015-16)								
	For Laying DBM	Cum							
	Chokkanahalli Road								
	Ch 1060-1550		1	490.00	9.50	0.05	232.75		
	Ch 1550-1750		1	200.00	9.00	0.05	90.00		
	Ch 1750-1950		1	200.00	8.50	0.05	85.00		
	Sampigehalli to Agrahara		1	140.00	7.00	0.05	49.00		
							456.75	6366.60	**2907944.55**
13	KSRRB M500-19. Providing and laying bituminous concrete 40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 6% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.164 of I.No.21.22.6 in PW,P&IWTD S.R 2015-16)								
	Road Formation	Cum							
	Chokkanahalli Road								
	Ch 1060-1550		1	490.00	9.50	0.04	186.20		
	Ch 1550-1750		1	200.00	9.00	0.04	72.00		
	Ch 1750-1950		1	200.00	8.50	0.04	68.00		
	Sampigehalli to Agrahara		1	140.00	7.00	0.04	39.20		
							365.40	7699.32	**2813331.53**
14	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.181, I.No.24.15 of PW,P&IWTD SR 2015-16)								
	Edge line	Sqm	2	890.00	0.15	--	267.00		
	Centre Line		0.5	890.00	0.15	--	66.75		
	Sampigehalli to Agrahara		2	140.00	0.15	--	42.00		
			0.5	140.00	0.15	--	10.50		
							386.25	473.04	**182711.70**

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
15	Providing and fixing of **Reflective Raised Pavement marker (RPM's) / Cat eyes** / Road studs confirming to ASTM D4280 type H, having reflective panels made of prismatic lens of total internal reflection, the prismatic lens should be electronically fixed (welded) to the body made of polycarbonate mould, with a height of 20mm, size of 130mm x 105mm and reflecting area of 13sqm with the slope of retro reflective surface within the limit of 35 + 5 degree to the base on either side. The marker shape II display an initial minimum luminous intensity of 279mcd/ lux at an entrance angle of zero degree and observation angle of 0.2 degree. The corresponding values for 20 degree entrance and 0.2 degree observation angle shall be 112 mcd / lux with color multiplying factor on either cases for white, yellow and red markers being 1.0, 0.6 and 0.25 respectively. The RPM's should be fixed by using two numbers of polymer shanks using appropriate adhesive as recommended and certified by the RPM manufacturer. The raised pavement marker should support a sufficient minimum load 13635 Kg in accordance with ministry specification..(P.No.290, I.No.38.32 of PW,P&IWTD SR 2015-16)								
	Cat Eyes at road intersetion	Nos	3	195	--	--	**585.00**	324.00	**189540.00**
16	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per revised IRC :67-2012 made of high intensity grade sheeting vide clause 800.1.3, fixed over Aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing complete as per specifications. MORTH Specification No.801 90 cm equilaterial triangle -Type XI (P.No.179, I.No.24.2.1.2 of PW,P&IWTD SR 2015-16)								
		nos	3	1	--	--	**3.00**	4185.00	**12555.00**
								Total Construction Cost	**13710474.16**
17								**Cost towards Preparation of DPR LS**	**82263.00**
18								**Cost towards PMC / Third Party inspection LS**	**205658.00**
								Sub Total	**13998395.16**
19								**Miscellaneous and rounding off**	**1604.84**
								Total	**14000000.00**

Certificate.

1 The workspot was inspected and work is found to be necessary.
2 The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3 The rates adopted based on the PWD SR, Bangalore circle for year 2015-16.
4 The provisions made in the estimate are necessary and essential.

For Tejus Consultants

Assistant Engineer — Assistant Executive Engineer — Executive Engineer 6/6/16

Technical Sanction
Accorded For ....140.00 lakhs.....
Head of A/C....P-3089.....
CER NO :.....12..... **Dt:**..10.06.16

TA CE (YNK)

ADMINISTRATIVELY SANCTIONED FOR Rs 140.00 lakhs
Rupees one hundred forty lakhs only
Under P3089
Regis...
Subj...
enclos...
Dt...
J.C(Y) PQ/AS/01/16-17
dated 10-6-2016 Rs-140 lakhs

Joint Commissioner
(Yelahanka Zone)
BBMP, Bengaluru-92.